



## **CRS Report for Congress**

# **Military Base Closures: Role and Costs of Environmental Cleanup**

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### **Summary**

Near the end of its first session, the 109<sup>th</sup> Congress approved a new round of military base closures and realignments. As the Department of Defense (DOD) implements the new round, issues for the 110<sup>th</sup> Congress include the pace and costs of closing and realigning the bases and the impacts on surrounding communities. The disposal of surplus property has stimulated interest among affected communities in how the land can be redeveloped to replace lost jobs. Environmental contamination can present a challenge to economic redevelopment if funding or technological constraints would limit the degree of cleanup needed to make the land safe for its intended use. Most of the land on bases closed under prior rounds has been cleaned up and transferred for redevelopment. However, some bases have yet to be cleaned up to an extent that would be safe for their intended use. Bases closed under the 2005 round could face similar delays in reuse if a community's preferred land use requires a costly and time-consuming degree of cleanup. This report explains cleanup requirements for the transfer and reuse of properties on closed bases, discusses the status of properties transferred for reuse, and examines estimates of costs to complete cleanup at those awaiting transfer.

### **Introduction**

Following the collapse of the former Soviet Union, Congress authorized four rounds of military base closings and realignments in 1988, 1991, 1993, and 1995. Although closure of installations under all four rounds is complete, environmental cleanup and economic redevelopment of some of these properties continue. The pace and cost of cleaning up environmental contamination on closed bases has been an ongoing issue because of concern about human health and environmental risks and the public's desire to redevelop these properties for civilian uses. The completion of cleanup is often a key factor in economic redevelopment, because the land cannot be used for its intended purpose until it is cleaned up to a degree that would be safe for reuse.

A new round of base closures and realignments has made communities concerned that the cleanup of environmental contamination may pose obstacles to redeveloping more

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surplus military property for civilian reuse. The Base Realignment and Closure (BRAC) Commission submitted its report on the 2005 round to President Bush on September 8, 2005. This report lists the military installations that the Commission approved for closure or realignment and its reasons for altering DOD's recommendations.<sup>1</sup> The President notified Congress of his approval of the Commission's recommendations on September 15, 2005. Near the end of its first session, the 109<sup>th</sup> Congress approved the 2005 round, which must be completed within six years under federal statute. However, this time frame applies only to the closure or realignment of bases. The cleanup of contaminated surplus property to make the land suitable for civilian reuse could take significantly longer. Consequently, the cost and pace of long-term efforts to clean up these properties are likely to continue to be issues for many years.

## **Cleanup Requirements for Property Transfer and Reuse**

Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly referred to as Superfund) generally requires the United States (in this case, DOD) to clean up closed bases prior to transfer out of federal ownership.<sup>2</sup> Property on a closed base is typically transferred to a local redevelopment authority (LRA) responsible for implementing a plan for civilian reuse. To speed redevelopment, CERCLA authorizes early transfer under certain conditions.<sup>3</sup> Early transfer can be advantageous in terms of redevelopment, if the intended land use would not present the potential for harmful human exposure to contamination, and therefore not require cleanup. Conversely, redevelopment could be delayed despite early transfer if cleanup is necessary to make the intended land use safe.

Whether a property is transferred after cleanup or transferred early, the degree of cleanup varies from site to site, depending on the cleanup standard used and the remedy selected to attain it. Rather than specify standards for particular substances, CERCLA requires that cleanup comply with legally applicable, relevant, and appropriate requirements (ARARs) to protect human health and the environment, including a host of federal and state standards for various hazardous substances.<sup>4</sup> Although CERCLA does not explicitly require the consideration of land use in determining the degree of cleanup, in practice, land use is a key factor in selecting a cleanup standard and remedy to attain it. Cleanup standards generally are stricter for land uses that would result in greater risk of human exposure to contamination. For example, cleanup is typically more stringent and more costly for land uses such as residential development, which could pose a higher risk of exposure to sensitive populations including children and the elderly. Cleanup is typically the least stringent and the least costly for industrial land uses, such as manufacturing, which could pose less risk of exposure.

The Environmental Protection Agency (EPA), or the state in which an installation is located, is responsible for determining whether the selected remedy would attain the

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<sup>1</sup> The BRAC Commission's report is available online at [<http://www.brac.gov/finalreport.html>].

<sup>2</sup> 42 U.S.C. 9620(h).

<sup>3</sup> 42 U.S.C. 9620(h)(3)(C).

<sup>4</sup> 42 U.S.C. 9621(d).

cleanup standard for a specific site.<sup>5</sup> EPA has issued non-binding guidance for considering the “reasonably anticipated land use” in selecting cleanup remedies.<sup>6</sup> DOD and the community, usually through the LRA, are responsible for determining how the land will be reused, in negotiating the terms of the property transfer. However, the community’s ability to attain its preferred use is constrained, as the Defense Base Closure and Realignment Act does not require DOD to *dispose* of property on a closed base for a particular land use, nor within a certain time frame. Impediments to conveying the land for redevelopment may surface if DOD is resistant to transferring it for a purpose that the community desires, because of cost considerations or technological limitations affecting cleanup of the contamination. EPA’s guidance acknowledges that some land uses may not be practical due to such challenges, and indicates that the cleanup objective may need to be revised, which may result in “different, more reasonable land use(s).”<sup>7</sup>

In addition to land use, numerous other factors can determine the degree and cost of cleanup, raising further issues. For example, cleanup does not necessarily require the removal of contamination, if a safe method of containing it is available to prevent exposure. Although containment is typically less costly than removal, some of the savings of containment can be offset by the costs of maintaining the containment method over the long-term to ensure that it remains effective in preventing exposure. Tensions may arise between DOD and the community, if there is disagreement over the method selected to prevent exposure. Communities frequently prefer removal rather than containment, because of concerns about lingering risks and continuing costs if the method of containment were to fail over time. However, DOD may prefer containment to save costs, due to limited funding for the cleanup of many closed bases across the country.

Once DOD and the community agree on a land use, and a cleanup remedy is selected to make that land use safe, DOD generally administers and pays for the cleanup. However, the recipient of the property voluntarily can agree to accept responsibility for the cleanup, including the costs. In such cases, DOD typically sells the land at a discounted price to offset the cleanup costs borne by the purchaser. A discounted price may lower a purchaser’s initial costs to buy the land, but the purchaser does assume some financial risk if the cleanup costs are greater than expected. The cost of environmental insurance to assume this financial risk also may offset some of the initial savings gained from a discounted price.

If DOD takes responsibility for the cleanup, the department remains obligated after cleanup is complete in the event that more contamination is found later that requires remediation. However, DOD is obligated for further cleanup only to the extent that the degree of contamination found later would exceed applicable standards for the land use originally agreed upon for the transfer. If a community decides to use the land for another purpose that would require further cleanup, DOD would not be responsible for paying for

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<sup>5</sup> EPA is required by statute to take the lead in overseeing cleanup at federal sites on the National Priorities List (NPL). States usually take the lead in overseeing cleanup at non-NPL sites.

<sup>6</sup> EPA. Office of Solid Waste and Emergency Response. *Land Use in the CERCLA Remedy Selection Process*. OSWER Directive No. 9355.7-04. May 25, 1995.

<sup>7</sup> *Ibid.*, p. 7.

it. In such cases, the additional costs of cleanup to make the land safe for a different purpose would be the responsibility of the property recipient.

## Status of Property Transfer on Closed Bases

DOD is in the early stages of implementing the 2005 round and will transfer surplus property as bases are closed and the land is found to be environmentally suitable for transfer. Although DOD has transferred most of the land on bases closed in prior rounds for redevelopment, certain properties have yet to be transferred because cleanup is not complete, raising questions about the potential for similar delays in the 2005 round. The most readily available information on the status of property transfer on bases closed in all four prior rounds was released by the Government Accountability Office (GAO) in January 2007. GAO reported that 78% of the acreage on these closed bases had been transferred for reuse, as of the end of FY2006.<sup>8</sup> Of the acreage awaiting transfer, 15% had been leased for reuse prior to the completion of cleanup. However, pending cleanup had delayed the permanent transfer of these properties, with reuse limited to purposes that would be safe relative to the degree of contamination and potential for human exposure. The remaining 7% of the acreage on bases closed under the four prior rounds had not been leased or transferred for reuse primarily because of cleanup challenges.

## Estimates of Cleanup Costs

The total amount of funding required to clean up closed bases to prepare them for civilian reuse is difficult to determine. Uncertainties about the degree of cleanup that will be required at many sites make it challenging to accurately estimate the outstanding costs to complete cleanup. Although DOD estimates these costs based on its current knowledge of individual site conditions, the estimates are periodically revised as more is learned about the type and extent of contamination present at each location, and the actions that federal and state regulators will require to address potential health risks. In effect, these estimates are “moving targets” that change as more information becomes available to project the costs of future actions.

The *net* costs to clean up closed bases to prepare them for civilian reuse also is difficult to determine because the closure of these facilities results in annual “savings” in operational costs that can offset the costs of cleaning up contamination. Estimates of annual savings resulting from the closure of all bases under the previous four rounds range from \$6.6 billion to \$7.3 billion.<sup>9</sup> The BRAC Commission estimated additional savings of approximately \$4.2 billion annually that would result from the closure of bases selected for the 2005 round. These estimated savings are based on the operational expenses that DOD would have incurred if these installations had remained open, and aptly are often referred to as “cost avoidances.”

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<sup>8</sup> Government Accountability Office. *Military Base Closures: Opportunities Exist to Improve Environmental Cleanup Cost Reporting and to Expedite Transfer of Unneeded Property*. GAO-07-166. January 2007. p. 20.

<sup>9</sup> DOD estimates an annual savings of \$7.3 billion in operational expenses it would have incurred if all of the bases closed under the four prior rounds had remained active. GAO calculated a lower estimate of \$6.6 billion in annual savings.



However, an important factor to consider is that a portion of the cleanup costs would have been incurred regardless, as DOD is required to clean up its operational installations at least to a degree that would be safe for military uses. The incremental cost and time to clean up a closed base depend primarily on how extensive the cleanup must be to make the land safe for uses that would be less restrictive than military purposes, and result in a higher risk of human exposure to contamination. When taken into consideration, this factor can somewhat reduce the offsetting effects of operational savings on the costs to clean up contamination on a closed base.

Further, the reporting of cleanup cost estimates by DOD is fractured among several documents that present different categories of cleanup expenditures and liabilities. The lack of a comprehensive source of information makes it difficult to determine the total estimated costs associated with the cleanup of closed bases. In its January 2007 report, GAO observed this difficulty and recommended that DOD report all costs to clean up closed bases in one single source in order to provide “more complete and transparent cost information” to aid Congress in its oversight of this effort.<sup>10</sup> While the differing reporting mechanisms raise challenges in identifying total cleanup costs, all of the estimates DOD has reported indicate that the cleanup of closed bases is a multi-billion dollar effort that will require many years to complete, even decades in some cases. For example, DOD expects cleanup to require more than 50 years at three closed bases with extensive contamination, including Mather Air Force Base and McClellan Air Force Base in California, and Williams Air Force Base in Arizona.<sup>11</sup>

Among the various reports, the most detailed information on cleanup costs and time frames at individual installations is provided in DOD’s annual *Defense Environmental Programs Report to Congress*. This report provides information on the status of cleanup, past costs incurred, and estimates of future costs for activities administered under the department’s Defense Environmental Restoration Program. Although this program accounts for the vast majority of cleanup costs at individual installations, it does not reflect associated program management and support costs, nor does it reflect the costs of other activities related to cleanup, such as the closure of landfills, storage tanks, and other waste disposal facilities that DOD used when an installation was active. It also does not reflect the closure of operational training ranges, which can require extensive and costly cleanup to remove unexploded ordnance (UXO) and other munitions.

As indicated in the following table, DOD reports that it had spent \$6.9 billion through FY2006 under its Defense Environmental Restoration Program to clean up closed military bases. DOD estimates that another \$3.9 billion would be needed in the future to complete cleanup, including bases to be closed in the 2005 round. While these amounts exclude costs of certain activities identified above, they represent the bulk of the costs. However, continuing uncertainties about the degree of cleanup that will be required at many sites make the estimates of future costs still preliminary at best. For example, the actual costs could be higher if new or more stringent regulations are issued that require

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<sup>10</sup> Government Accountability Office. *Military Base Closures: Opportunities Exist to Improve Environmental Cleanup Cost Reporting and to Expedite Transfer of Unneeded Property*. GAO-07-166. January 2007. p. 4.

<sup>11</sup> Department of Defense. *Defense Environmental Programs Report to Congress for FY2006*. March 2007. Appendix M. p. M-125, p. M-127, and p. M-208.

a greater degree of cleanup than anticipated. Future costs also could be more than expected if unknown contaminants are discovered. On the other hand, costs at some sites may prove lower if more cost-effective cleanup technologies become available.

**Table 1. Defense Environmental Restoration Program:  
Cleanup Costs at Closed Military Bases  
for All Five Rounds Combined**

<b>Military Component</b>	<b>Costs Incurred Through FY2006</b>	<b>Costs FY2007 to Completion</b>	<b>Total Costs</b>
Army	\$2,122,536,000	\$1,323,998,000	\$3,446,534,000
Navy	\$2,354,135,000	\$1,519,753,000	\$3,873,888,000
Air Force	\$2,364,259,000	\$1,023,520,000	\$3,387,779,000
Defense Logistics Agency	\$95,708,000	\$28,631,000	\$124,339,000
<b>All Components</b>	<b>\$6,936,638,000</b>	<b>\$3,895,902,000</b>	<b>\$10,832,540,000</b>

**Source:** Department of Defense. *Defense Environmental Programs Report to Congress for FY2006*. March 2007. Appendix N, Table N-4, p. N-4-1 and p. N-4-2.

## Key Issues

The amount of money and time required to complete the cleanup of closed bases will depend on the type and extent of contamination present on those properties, and the actions that will be necessary to make the land safe for civilian reuse. Cleanup can take many years, as the continuing cleanup of certain bases closed between 1988 and 1995 demonstrates. As in prior rounds, availability of funding and capabilities of cleanup technologies could limit the degree of cleanup on bases closed in the 2005 round, making certain land uses infeasible and posing challenges to economic redevelopment.

Whether DOD's estimates are a reasonable approximation of what the actual cleanup costs might be has been the topic of much debate. Because the civilian uses of bases to be closed in the 2005 round have yet to be finalized, DOD's cost estimates so far are based on a degree of cleanup that would be safe relative to the recent military land use. If a property were to be used for a purpose that is less restrictive than military use, and would result in a higher risk of exposure to contamination, a greater degree of cleanup likely would be required to make the land safe for that use. In such circumstances, more funding and time could be needed to complete cleanup than DOD has estimated.

In deliberations over the 2005 round, some Members of Congress and the BRAC Commission expressed concern that DOD's estimates could be undervalued because they do not reflect all possible land uses and the corresponding degree of cleanup that may be necessary to redevelop these bases. Some states also assert that DOD's estimates are based on less stringent cleanup actions that the department prefers, rather than on more extensive actions that they could require under their regulatory authorities. Accordingly, communities have questioned whether more funding and time may be needed than DOD has estimated to clean up closed bases to make them safe for civilian reuse. Considering the inherent uncertainties in cleaning up environmental contamination, DOD's cost estimates are likely to continue to evolve as more is learned about the actions that will be needed to make the remaining properties on closed bases suitable for reuse. crsphpgw